Clinical features of conversion disorder

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SUMMARY This study reviewed the case notes of 52 children diagnosed as suffering from hysterical conversion during admission to a paediatric teaching hospital over a 10 year period. The disorder was rare below 8 years of age and girls outnumbered boys three to one. Altogether 75% of the children presented during spring and summer; at the time of end of year exams and the beginning of the new school year. The presentation was usually polysymptomatic with gait disturbance being the main complaint in 36 children. Sensory abnormality, predominantly pain, was present in 40 children; this indicates a strong association between psychogenic pain and conversion disorder in children. At discharge 32 were completely recovered or had appreciably improved. There was a core group that presented particular difficulties with diagnosis and showed little positive response to treatment.

Hysteria persists despite changing social structures and by attempts to define or dispose of it. The diagnosis can be an unrivalled test of a clinician’s skill and belief in his judgment. Certainty is demanded and mistaken diagnosis threatens the doctor with exposure to the resentment of the patient and his or her family, the righteous censure of colleagues, and to humiliating and costly appearances in courts of law. Even in the most obvious case the diagnosis is seldom made without a certain uneasiness and reluctance.

Hysteria in childhood poses special problems as it is intimately concerned with the child in the family. Taylor has written extensively on the psychiatric aspects of childhood hysteria and sees three elements in its emergence. The child is oppressed by a predicament that is perceived as intolerable and from which there seems to be no escape. Relief appears in the form of a claim to illness that is managed and promoted by an ally: usually one or both parents. The final element is a model for the illness that may be obvious or obscure or may evolve during the child’s dealings with doctors. This structure provides a means for recognition of the psychological forces at work but Taylor uncouples the psychological and the physical, seeing them as different independent ‘domains’ of the individual’s existence. The emergence of organic disease is not seen as invalidating the hysteria.

This formulation, helpful as it is, in some ways provides rather cold comfort for the paediatrician dealing with a child who may be hysterical. Total exclusion of organic disease is usually demanded by parents (and often by psychiatrists) before psychiatric treatment can start. Additional misgivings arise from the notion that there is an infinite variety of manifestations of hysteria. Older studies of childhood hysteria are often not helpful as diverse entities such as anorexia, hypochondriasis, abdominal pain, headache, and anxiety were included alongside cases of conversion reaction. More recent studies have tended to be of small samples or principally to approach the subject from the psychiatric or neurological viewpoint. There are very few long term follow up studies.

Caplan reviewed 28 children referred to the Maudsley Children’s Hospital with a provisional diagnosis of hysteria. Thirteen were found to have organic disease referable for the original complaint. In 10 children, however, this was discovered before the child left hospital. Caplan felt that after careful neurological and psychiatric assessment a group of ‘true hysterics’ could be identified who do not have organic disease and may do well in the long term. Stevens reached similar conclusions. In both series the children initially presented in the 1950s and early 1960s long before the availability of computed tomography and the other sophisticated techniques of neurological investigation available today.

Study method

The aim of this study was to examine the clinical features of a group of carefully defined children.
admitted to a general paediatric hospital in whom
the diagnosis was made only after detailed examina-
tion, investigation, and psychiatric assessment. The
study was limited to children with conversion
disorder as this is the most common and most easily
defined presentation of childhood hysteria. A search
of the medical records of all children discharged
from the Royal Alexandra Hospital for Children
over the years 1975–84 with a diagnosis of conver-
sion reaction or hysteria was performed. The notes
were examined and found to be suprisingly detailed.
In particular the more difficult cases exerted a
morbid fascination on those looking after them.
Long, often revealing, entries appear from medical,
nursing, and paramedical staff. Those cases that
satisfied the Diagnostic and Statistical Manual of
Mental Disorders5 criteria for conversion disorder
were studied. These criteria are as follows.

(1) The predominant disturbance is a loss of or
alteration in physical functioning suggesting a
physical disorder.

(2) Psychological factors are judged to be aetio-
logically involved in the symptom, as evidenced
by one of the following:

(a) there is a temporal relationship between an
environmental stimulus that is apparently
related to a psychological conflict or need
and the initiation or exacerbation of the
symptom;

(b) the symptom enables the individual to
avoid some activity that is noxious to him
or her.

(3) It has been determined that the symptom is
not under voluntary control.

(4) The symptom cannot, after appropriate in-
vestigation, be explained by a known physical
disorder or pathophysiological mechanism.

(5) The symptom is not limited to pain or to a
disturbance in sexual functioning.

(6) The symptom is not due to a somatisa-
tion disorder or schizophrenia.

Sixty four children and adolescents had a dis-
charge diagnosis of conversion reaction or hysteria.
Twelve patients were excluded: eight failed to meet
the criteria and were suffering from hysterical fugue
states, anorexia nervosa, or conduct disorder. Two
had pain only, and in two others the notes were
incomplete. This left 52 patients of whom most were
admitted under the care of a general paediatrician.
Formal psychiatric assessment was performed in 47
cases (90%), 27 patients were assessed by a paediat-
ric neurologist, and 16 were examined by one or
more of the authors.

Results

The mean age of the 52 children was 10 years with a
range from 6 to 15 years; 32 (62%) were in the 10 to
12 age group (figure), and 39 (75%) were girls.
Regarding birth order: eight were the only child, 14
were first born, 15 were second born, and 15 were
born third or later in the family. During the course
of their illness 28 had a single admission and 12
required multiple admissions. Two children had two
quite distinct hysterical episodes separated by a
number of years. There was an apparent seasonal
variation with 27 children admitted in the three
months of (Australian) spring and 39 in all admitted
in the spring and summer (table 1).

Clinical features

Before admission 22 children had symptoms for less
than a week. In 19 the complaint had been present

Table 1 Time of year at admission to hospital

<table>
<thead>
<tr>
<th>Month of admission</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of cases</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>—</td>
<td>2</td>
<td>7</td>
<td>11</td>
<td>9</td>
<td>1</td>
</tr>
</tbody>
</table>

Figure Age at admission to hospital.
for more than a month, and in some of them for
more than a year. The presentation was poly-
symptomatic in 32 children and the presenting
symptoms are divided according to the function
most disabled.

(1) Abnormality of gait
Altogether 36 children had presented with abnor-
mality of gait. Of these, 16 complained of difficulty
in, or total inability with walking because of
generalised leg pains. The remainder had more
classical ‘pseudoneurological’ presentations. Nine
had monoparesis of a lower limb; three were
paraplegic; two hemiplegic; two had gross ataxia;
two had generalised tremor, and two walked in a
shuffling bent over fashion. In all but three children
pain and, less frequently, anaesthesia were prominent
features. The affected limb(s) was often not trouble-
some at rest but any attempt at examination or
movement provoked complaints of intense pain
often accompanied by tears.

(2) Others
Eight children had pseudoseizures; two painful
monoparesis affecting the upper limb; three blind-
ness (pain being a feature of each); two sneezing;
one aphasia (with ataxia); one stridor, and one
globus hystericus.

Overall, 40 (77%) complained of pain, parasthe-
sia or anaesthesia, or both, as well as loss of
function. Pain was by far the most common com-
plaint. Besides the three children who principally
presented with blindness, eight others had visual
complaints—for example, blurred or double vision.
In one child presenting with blindness there may
have been underlying mild optic neuritis but the
bulk of the complaint was thought to be hysterical.

Six children had organic disease before their
hysterical episodes. Two had diabetes, one severe
eczema, one Silver-Russell dwarfism, one epilepsy,
and one congenital cataracts and glaucoma. Another
was found to have choreiform movements that had
been present all her life but no diagnosis had been
made previously. In only two children did the
conversion symptom affect the part of the body
already identified as abnormal.

The psychological features of the children are
presented in table 2. One child had been sexually
abused by her grandfather well before her hysterical
episode. This possibility was considered in three
other children but had not been proved at the time
of discharge.

Thirty families (58%) were anxious and the home
environment was pervaded with fears of loss and
physical illness. In contrast, 11 families (21%) were
grossly disrupted, with parents and children in open

Table 2 Psychological features of the 52 children

<table>
<thead>
<tr>
<th>Feature</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence of a model</td>
<td>28 (54)</td>
</tr>
<tr>
<td>Recent stressful life events</td>
<td>24 (46)</td>
</tr>
<tr>
<td>Threat of separation or loss of relative</td>
<td>24 (46)</td>
</tr>
<tr>
<td>History of similar symptoms of psychiatric illness</td>
<td>17 (33)</td>
</tr>
<tr>
<td>La belle indifference</td>
<td>10 (19)</td>
</tr>
</tbody>
</table>

INVESTIGATIONS
In general clinical investigations had been per-
formed, even in those cases where conversion
reaction seemed highly likely. Most children had
‘routine’ blood tests—for example, full blood count
and electrolytes. Erythrocyte sedimentation rate (in
28), antinuclear factor, rheumatoid factor, and titres
for Epstein-Barr virus, cytomegalovirus, and myco-
plasma were often requested. Twenty four children
had radiographs of the affected limb, skull, or chest.
Eleven had electroencephalograms taken, nine had
computed tomographic scans, nine had radioisotope
studies, and 10 had lumbar punctures (including
four myelograms taken). Two children had arterio-
grams taken of the lower limbs; two had broncho-
scopy; three had nerve conduction studies; two
had edrophonium tests; two had visual evoked
responses tested; one had a barium enema, and in
one single patient bone, muscle, and skin biopsies
were performed.

Difficulties arising from interpretation of the
investigations and true organic changes resulting
from prolonged disuse of a limb meant that they
clouded rather than clarified the problem in a
number of cases. Both arteriograms were performed
after radioisotope flow studies suggested obstruction
to the arterial supply of the lower limb. In seven of
the 11 children who had electroencephalograms
minor abnormalities were present. Seven with pain-
ful limbs had abnormalities shown on their radi-
ographs such as osteoporosis or joint narrowing. The
most difficult case in the entire series was treated
with steroids at another hospital for dermatomyosi-
tis on the basis of weakness and patchy myopathic
changes shown on an electromyogram. When she
failed to respond the steroid dosage was increased,
and this combined with her near total immobility
resulted in appreciable metabolic derangement and
steroid myopathy. It was only after a month at this
hospital and a massive number of investigations and
extensive consultation that it was considered that
her illness was primarily psychological.

On a number of occasions the investigation
resulted in an escalation of the symptoms. One girl
became paraplegic after her barium enema, and
others complained bitterly of back pain after lumbar
puncture. In one girl subjected to arteriography of
her lower limb the procedure was performed at a
time when she had begun to improve and produced
a return of her earlier symptoms.

**COURSE OF ILLNESS**
A number of children had been treated elsewhere
before referral to this hospital. Four children had
been treated with corticosteroids. In two this was
used for intractable sneezing, in one for ‘der-
atomyositis’, and in one for stridor in which an
asthmatic component was suspected. Four children
with pseudoseizures were treated with anticonvol-
sants; a variety of anti-inflammatory agents were
used for the musculoskeletal symptoms. One child
with persistent leg pain had been unsuccessfully
treated with one month of immobilisation in plaster
on two separate occasions and had also received
intra-articular cortisone injections.

In hospital those children who did not sponta-
neously and rapidly recover were generally treated
by the method previously described by Gold^{10} and
Dubowitz and Hersov^{11}: this consists of stopping
unwarranted investigation, giving the child physio-
therapy and occupational therapy, and paying
attention to psychological factors. Three children
had psychotropic drugs prescribed by the depart-
ment of psychiatry. One child was prescribed
imipramine for depression. Both children with
intractable sneezing were treated with haloperidol
because it was thought that their symptoms re-
sembled a tic. Neither had any other feature of
Tourette syndrome nor responded to the medications.

In 23 children, the symptoms had completely
resolved at time of discharge. Nine children showed
a noticeable improvement in their symptoms, 13 a
moderate improvement and eight none. In one case
the child’s condition at the time of discharge was not
recorded. Those children with a shorter duration of
symptoms before admission tended to recover more
quickly, but this was a trend rather than a strict
relationship.

**THE ‘DIFFICULT’ GROUP**
A subgroup of 13 children, 11 of them girls,
presented particular problems with both diagnosis
and management. Their symptoms had been present
for a long time at admission: 10 being affected for
more than two months. Even more than in the rest
of the sample, many organ systems were affected.
Nine had weakness combined with nausea, lethargy,
and head, limb, and abdominal pains. In four of
them weakness of a limb was accompanied by severe

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localised pain. They often looked ill and seemed
depressed. Anorexia was a feature, with considerable
weight loss occurring in a third. They were generally
‘good’ children, serious minded, compliant, and
perfectionistic, who came from families with high
expectations of them and were anxious about illness.
Seven were at the top of their class or were the local
athletic champion. They spent a long time in
hospital, up to 72 days, with an average stay of 31
days. Most of the invasive investigations were
performed on them, and during their stay doubts
about the diagnosis continued. Once treatment
began their response was frustratingly slow despite
intensive efforts. Only two of these 13 children had
substantially improved at discharge; four showed no
change at all.

**Discussion**

There is an impression, supported by many authors,
that the manifestations of conversion reactions are
protean.^{1-9} This group, on the contrary, displayed
many common features: female predominance, a
narrow age range, presence of pain or anaesthesia,
and presentation with gait disorder. So called
classical presentations such as globus or blindness
were relatively rare.

The excess of female patients over males is a
feature of adult hysteria but has also been seen in
many previous paediatric studies.^{9-10} The narrow
age range at presentation is probably arte-
factual with children older than 13 being referred to
adult hospitals. The important point is that there
were only three children under the age of 8 years
and none under 5 years. The dangers of the
diagnosis of conversion disorder in the young child
cannot be overstated and are well documented.^{10}

Given that children in whom pain was the sole or
predominant symptom were excluded from the
present study (they were regarded as suffering from
psychogenic pain disorder) the frequency and severity
of pain as an associated symptom was striking.
Altogether 40 (77%) complained of pain or sensory
disturbance. This, with the required loss of function,
principally an inability to walk, made the child’s
declaration of illness inescapable. The child was
prevented from getting about; this ensured a reac-
tion from the parents. It fits well into the concept of
the child ‘talking with his body’.^{11} The observation
that pain is a frequent concomitant of conversion
has previously been noted by Gold^{10} and
Schneider^{16} and Sheffield.^{12}

An interesting finding is the apparent seasonal
incidence, with 50% of the group presenting in the
spring. Many of these children were chronically
stressed but a number of factors can be advanced as
precipitants of admission at that particular time. Spring is the time of the end of year school exams in Australia. An incapacity to face failure has been long regarded as an important aetiological factor in the production of a conversion reaction. This is further supported by virtual absence of cases during the December school holidays and then an upsurge in January and February at the beginning of the new school year. Additional factors in spring include increased pressure on the child to take part in outdoor sporting and recreational activities that may uncomfortably highlight deficiencies in skills and bodily maturation compared with peers. There may also be an intensification of feelings revolving around the beginnings of sexual maturation.

These children were heavily investigated. It is impossible from a retrospective study to say how many tests may have been avoided. Appropriate clinical investigation is one of the diagnostic criteria for conversion disorder and routine investigations have an important role in convincing the child and the child's allies that physical disease is not present. At times investigations had the opposite effect: the detection of minor abnormalities undermining rather than consolidating the diagnosis of psychological illness and precipitating a further round of investigation. Pressure for additional and often more invasive investigations arose and the institution of appropriate treatment was delayed. Sometimes the investigation provoked a worsening of the child's condition.

Two broad patterns of psychological disturbance appeared in the families. Firstly, there was a group that consisted of anxious families preoccupied with, yet fearful of, disease where illness was the prevailing means of communication. In one such family the little girl kept 'graves' marked with a cross for her cat, budgerigar, and both grandparents in the backyard. Her mother's only close friend had a child who had recently died of leukaemia. She was the youngest child and the mother would keep her home from school at the slightest premonition of illness. In another family, the father was a miner and each morning he would line up the mother and children and kiss them goodbye in case he was killed during the day's work. This sort of family often initially seemed 'normal' and tended to produce the most difficult cases. Secondly, there was a pattern of chaotic social circumstances that was exemplified by a family where the mother herself was the 'black sheep' of her family. She had three families with seven children from different alcoholic fathers. The index case, a 13 year old girl, presented with pseudoseizures, her brother was described as a 'young sociopath', and her sister was unmarried, pregnant, and 'antiestablishment'. In another family the parents argued openly and constantly at home, and the father continually threatened to leave to live with his girlfriend. He had attacked his wife after a visit to a local club and forced her to walk home dressed only in her underclothes. Despite their estrangement he had split open the head of his wife's boyfriend with a wooden pailing. The presenting symptoms in these children were usually more obviously 'hysterical' and the diagnosis more easily made.

A model was identified in only 28 (54%) of the group. This relatively low figure partly stems from the retrospective nature of the study but also, as Taylor warns, the model may arise from the long forgotten past or be stumbled upon in the course of the patient's encounters with the medical profession. The virtual absence of sexual abuse almost certainly reflects the lack of awareness of its frequency that prevailed for most of the years of the study. Even in the last years when it was actively looked for no definite cases were found.

The treatment given before arrival at this hospital shows the dangers when allies include doctors. The most dramatic example was the treatment of one child with hysterical sneezing: a 10 year old girl from a country town, who was the captain of her class at school. She was referred after two weeks of constant sneezing day and night. This was felt to be 'probably hysterical, but she appeared well adjusted, sensible and cooperative and the parents uncomplicated and also sensible.' Over two weeks treatment with promethazine, pentobarbitone, thioridazine, mor- phine, sodium cromoglycate, beclomethasone, and prednisone were tried with respite from the sneezing only during the hours of sleep. She was then taken to the operating theatre and had submucosal diathermy and antral washout to 'shock' her out of it. When this failed she was transferred.

The important aspects of the treatment in hospital included the use of the team approach provided by paediatricians, psychiatrists, and paramedical staff. The provision of an 'escape with honour' was essential. Twenty one children (40%), however, did not show an appreciable improvement at discharge. There are a number of reasons for this. Some children were returned to their referring doctors after diagnosis without beginning treatment. Also being in hospital may reinforce illness behaviour. The identification of a problem as psychological is unlikely to persuade the child suddenly that all is well if there has been no change in circumstances and may even result in an amplification of the patient's symptoms in an effort to 'prove' their organic basis. Certainly taking a punitive line and keeping the child in hospital until the symptoms...
disappear invites a degeneration into a contest of wills between the patient and the doctor.

In many of the children it was relatively easy to decide that no organic disease was present. For example, the little girl with intractable sneezing stopped on request so an artefact free electroencephalogram could be obtained and the sneezing immediately recommenced on its completion. A boy who was apparently paralysed and in a wheelchair was seen to kick a ball across the room. The 13 children who formed the difficult subgroup provided no such help. The presence of weakness, generalised limb pains, weight loss, and depression posed a wide differential diagnosis including malignancy and collagen vascular disease. Many were gaunt and miserable and seemed to be chronically ill. Ten children had had symptoms for more than two months before their admission, and when diagnosis was made they responded very slowly to treatment. Allies were readily recruited: there were entreaties such as 'surely an angiogram is indicated' appearing not infrequently in the notes from the more junior medical staff. Other staff found them obstinate and frustrating 'burping, inactive, wingeing, bored . .' They were generally high achievers under strong pressure from the family to succeed at school and at sport. The illness provided relief from their obligations without the expression of open rebellion. Despite their long admissions only two were substantially improved at discharge. Briquet's words of over 120 years ago seem disturbingly appropriate.24 'No illness is more difficult to cure than hysteria. . . . One quarter never recover or have the illness their entire lives. Some young girls who become hysterical before the age of 12 or 13 years are condemned to a lifetime of suffering, malaise and sometimes serious illness. They may spend a year or more in bed, completely incapacitated. They are always sick, abort easily, or if they go to term, give birth to more hysterics.'

Much can be made of the role of excessive investigation, contradictory medical opinions, and failure of early recognition of the problem in this sort of prolonged course. It may be equally argued that these children were sicker, their predicament worse, their allies stronger, and their nature more obstinate. Follow up is available on a number of them. The most severely affected girl who, after 72 days in hospital, was still unable to use her hands and would eat by putting her mouth to her plate, took part in a seven hour 'skatethon' several months later. Another immobile and debilitated girl was sent to her brother's property in the country where among the relatively primitive facilities she refused to take her antidepressant medication and made a complete recovery. This sort of cure can be related to a change in the structure of a predicament. Forty seven years ago Sheldon advocated two weeks convalescence by the seaside as part of the treatment of childhood hysteria.25 As Taylor says: 'It is not necessary, as it were, to remove the last straw that broke the camel's back in order to get the creature back onto his feet; any straw might do.'6 Perhaps in these apparently intractable cases early removal from hospital should be aggressively pursued.

The final question remains, as always, that of organic disease. No formal follow up has yet been attempted on this group. From the experience of Caplan17 and Stevens18 we would anticipate a low incidence of organic disease. In the time of the study one child returned with symptoms suggestive of temporal lobe epilepsy that were quite distinct from her initial conversion symptoms. No other cases appeared. It is of course possible that the return was to another hospital.

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References

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Accepted 12 October 1987
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Arch Dis Child 1988 63: 408-414
doi: 10.1136/adc.63.4.408

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